Introduction

Incumbent's innovation difficulty, relative to new entrants, popularised by Christensen (1997) as "innovator's dilemma", is a major theme in innovation studies and has largely been studied from the perspective of radicalness of innovation. Adopting an alternative perspective, this research investigates the differences in the innovation strategies of new entrants and incumbents in terms of approach to innovation and type of innovation pursued. The sample comprised 208 firms from Indian software small and medium enterprises (SME) sector, defined as firms with investment in equipment limited to Indian Rupees (INR) 50 million. Respondents were chief executive officers (CEO) or similar-level officers responsible for innovation in the firm. Firms in software business for less than five years were considered new entrants and others incumbents. Three approaches to innovation were identified: (1) emphasising resources, capabilities, technologies (RCT), (2) emphasising existing markets or customers (EM), and (3) emphasising new market or customer needs (NM). Innovation was classified into five types: (1) technology innovation, (2) product innovation, (3) process innovation, (4) marketing innovation, and (5) business model innovation.

Literature survey

The theoretical background for this research is built on the following research streams in innovation: (1) dilemma of dichotomous choices; (2) the innovation process, innovative capability and innovation value chain; and (3) fundamental approaches to innovation strategy. In each of these streams we explore how new entrants and incumbents differ in their motivations to take different approaches to and pursue different outcomes from innovation.

Various researchers and authors have noted that incumbents have difficulty in resorting to certain kinds of innovation, described as disruptive, architectural, competence-destroying, game changing etc. Incremental innovation is relatively less risky and quite rewarding for the incumbent; hence they tend to pursue it as much as possible. At the same time, disruptive or game-changing innovations cannot be

ignored because they can dethrone incumbents in favour of new entrants. Several prescriptions have been proposed to address this dilemma, but many researchers believe that they are largely unsatisfactory.

As mentioned earlier, the approaches to innovation can be grouped into three: RCT, EM, and NM. In the first approach, resources, technological competencies, R&D, patents etc. may enable firms to introduce new products or services. The second approach is by following existing market trends, which may create new innovation opportunities. The third approach is based on new market or customer needs. Incumbents may consider the third approach an unnecessary risk, often inadequately rewarding, incompatible with their existing resources, capabilities and complementary assets, and involving opportunity costs. New entrants may be more risk-taking and willing to try NM, while incumbents feel at home with RCT or EM. Of the five types of innovation, the first three, namely, technology, product and process (TPP) innovations, are inward-oriented and usually within the comfort zone of an incumbent firm. The last two innovation-types, namely marketing and business model (MBM) innovations, are outward-oriented and often outside the incumbent's comfort zone.

The discussion of innovation literature converges to the view that incumbents and new entrants have reasons and incentives to adopt different innovation strategies. Incumbents are likely to approach to innovation emphasising familiar bases of existing markets, resources, capabilities and technologies (EM and RCT), to do technology, product and process (TPP) innovations, while new entrants are willing and motivated, sometimes desperately, to try uncharted waters of new market and customer needs (NM), to do marketing and business model (MBM) innovations. This view forms the basis for the research hypotheses.

Two sets of hypotheses are proposed, one for type of innovation and the other for approach to innovation. Variables for operationalising the hypotheses are generated from literature. For innovation-type, they fall into three categories: importance, performance, and capability (table 1). For approach to innovation, they fall into two categories: approach relied on and capability helpful to an approach (tables 2a, 2b).

Table 1 Variables: dimensions of type of innovation

Dimension	Variable	References
Importance	Importance in innovation budget Contribution to sales revenue Contribution to revenue growth Contribution to customer acquisition Contribution to new business creation	Davila et al. (2012) Anderson and Markides (2007) Eccles (1991) Löfsten and Lindelöf (2001) Hoffman and Novak (2000)
Performance	Number of innovations Leveraging innovation for revenue Leveraging for profitability Aligning with business strategy Leveraging for market share growth	Davila et al. (2012) Löfsten and Lindelöf (2001) OECD/Eurostat (2005)
Value chain capability	Generating and selecting ideas Converting ideas into offerings Commercialising offerings	Hansen & Birkinshaw (2007)
Capability specific to Technology Innovation	R&D activity In-house R&D infrastructure In-house technical team Tie-ups with partners, universities, R&D Creation of intellectual property	Löfsten and Lindelöf (2001) OECD/Eurostat (2005)
Capability specific to Product Innovation	Product management Enhancing functionality, features etc. Product road-map management Finding new applications for products New product development (NPD) capability and process	Anderson and Markides (2007) OECD/Eurostat (2005)
Capability specific to Process Innovation	Certifications and assessment Improving operational effectiveness Improving operational efficiency Improving quality systems Improving delivery management Improving customer relations Improving maintenance and support Managing versions and upgrades Investments in software, tools, etc. Human resources and skills management	OECD/Eurostat (2005)
Capability specific to Marketing Innovation	New ways of marketing: digital & social Developing new sales channels Developing new distribution channels New ways of connecting to customers New ways to customer relationships	Anderson and Markides (2007) OECD/Eurostat (2005)
Capability specific to Business model Innovation	Business model improvements Business model breakthroughs Implementing organisational changes Use of IT for the above Creation of new ecosystems, alliances..	Anderson and Markides (2007) Johnson, et. al., (2008) OECD/Eurostat (2005) Osterwalder and Pigneur (2009)

Table 2a Variables: aspects relied on in approach to innovation

Dimension	Variable	References
How often relied on RCT	1. Resources and capabilities in design, development, delivery, distribution, service, networking, or marketing 2. Technological competences to develop new products / improve existing ones 3. Internal resources and capabilities 4. Parent or sister organisation 5. Technological capabilities, tiger teams 6. R&D investments, patents, Intellectual property rights (IPR) 7. External networks/ partners/ alliances 8. Open Innovation	Christensen (1997) Christensen & Raynor (2003) Jaruzelski et al. (2012)
How often relied on EM	1. Deep relations with and understanding of existing markets, need to sustain or retain them as well as to sustain market share 2. Expanding to new markets based on existing products / services, finding new applications for products 3. Existing customers and their changing needs 4. Trends and needs of existing markets for new products 5. Competitors' actions in existing markets 6. Complementor's actions in existing markets 7. Adjacencies to existing markets 8. Pre-sales and Sales teams 9. Working closely with customers to understand their needs 10. Market Research, strong insight of customer needs	Christensen (1997) Christensen & Raynor (2003) Jaruzelski et al. (2012)
How often relied on NM	1. Ability to identify and develop new customer needs, unmet so far and sometimes unknown to customers 2. Expanding to new markets based on new products / services developed to meet the needs of those markets 3. Unmet, unidentified customer needs in new markets 4. Domains yet unserved by the company 5. Lead users (users who lead new market trends/ develop new products/ services they need because suitable ones are not readily) 6. Interaction with diverse networks, including non-customers 7. Entrepreneurship (new product ideas originated by entrepreneurial initiatives)	Christensen (1997) Christensen & Raynor (2003) Jaruzelski et al. (2012) Von Hippel (1988)

Table 2b Variables: capabilities that help approach to innovation

Dimension	Variable	References
Capability: RCT	1. Technology capability, trends-prediction, understanding of emerging technologies 2. Product Development capability 3. Strategic capabilities to envision new products, road map 4. Human resources for innovation 5. Idea generation capability (Internal) 6. Idea generation capability (cross-team) 7. Idea generation capability (from external sources, partners etc.) 8. Investments in development tools 9. Product and platform management capability 10. Product life cycle management capability 11. Access to a pool of pilot users for new technologies and products for beta tests	Christensen (1997) Christensen & Raynor (2003) Hansen & Birkinshaw (2007) Jaruzelski et al. (2012)
Capability: EM	1. Following market trends and needs in firm's customer base 2. Responding to market needs with new products/services 3. Continuous innovations and improvements on existing products 4. Tracking competitors' innovation plans to produce effective, differentiated responses 5. Introducing the right product at the right time for firm's mainstream customers 6. Engaging customers through the development process 7. Involving partners to read market trends and to come up with speedy responses	Christensen (1997) Christensen & Raynor (2003) Jaruzelski et al. (2012) Rosted (2005)
Capability: NM	1. Appetite for new market risk 2. Knowledge of domains not served by firm 3. Risk assessment capability 4. Ability to pool together and access resources not readily available in the company 5. Marketing competence (ability to tap new markets unrelated to existing ones) 6. Business intelligence, observation and scanning of opportunities in new markets	Christensen (1997) Christensen & Raynor (2003) Jaruzelski et al. (2012) Rosted (2005)

Research questions and hypotheses

Two sets of questions are investigated in this research, namely, differences between incumbents and new entrants on the type of innovation they pursue, and on what they emphasise in their approach to innovation. The related hypotheses follow.

Hypotheses on type of innovation

H1a: More of incumbents do technology innovation than new entrants, among software SME firms

H1b: More of incumbents do product innovation than new entrants, among software SME firms

H1c: More of incumbents do process innovation than new entrants, among software SME firms

H1d: More of new entrants do marketing innovation than incumbents, among software SME firms

H1e: More of new entrants do business model innovation than incumbents, among software SME firms

Hypotheses on approach to innovation

H2a: More of incumbents emphasise RCT in approach to innovation, than new entrants, among software SME firms

H2b: More of incumbents emphasise EM in approach to innovation, than new entrants, among software SME firms

H2c: More of new entrants emphasise NM in approach to innovation, than incumbents, among software SME firms

Methods

Mixed methodology comprising two sequential phases was adopted, phase 1 being a qualitative exploration and phase 2 being a quantitative survey. In the first phase, in-depth, semi-structured interviews were conducted with chief executive officers of twelve software SME firms using an interview guide. Each interview lasted two to three hours. Six of the firms were new entrants and six incumbents. In the second phase, a survey of software SME firms from all over India was conducted using a web-based structured questionnaire. The sample size was 208. Of these, 82 were new entrants and 126 were incumbents. The main survey was preceded by a pilot survey.

Respondents in all cases were chief executive officers or similar level officers responsible for innovation.

The exploratory phase

The exploratory phase comprising in-depth interviews indicated differences between new entrants and incumbents with regard to the type of innovation performed. Entrants largely pursued MBM and incumbents TPP. The differences with respect to approach to innovation were not sharp, yet there was a tendency for incumbents to leverage RCT or EM for innovation leaving NM to new entrants. The exploratory phase provided several useful insights, as might be expected of a qualitative study.

The pilot survey

In the quantitative phase, a pilot survey was first conducted before the main survey. The pilot survey helped establish internal reliability of the instrument and validity of the constructs, and facilitated questionnaire improvement for functionality and effective data collection. Factor-wise Cronbach's alpha ranged from 0.79 to 0.96, suggesting that the factors were quite strong.

The main survey

The main phase returned 208 responses. It used a web-based, self-administered, structured questionnaire. Web-based questionnaires offer many advantages including time and cost savings, wide coverage, and direct downloading of responses into a database or spreadsheet, completely eliminating data-entry and data-coding errors. Coverage error, a concern with web-surveys, was not an issue in this case as the target respondents, being CEOs of software businesses, were regular users of computer and internet. Response rate, attrition, and self-selection, which are issues with self-administered surveys, were addressed through appropriate measures like repeated reminders, assurance of confidentiality and privacy, and carefully worded covering

emails that attempted to convince the recipient about the relevance of participating in the survey. Non-response and self-selection biases were further ruled out on the basis of post-survey telephonic discussions with a sample of non-respondents to check if there was any systematic non-response bias related to the variables of the hypotheses.

Indian software SME firms constituted the population for this research. A sampling frame of 3021 firms was created by collating databases from multiple sources. All the companies in the sampling frame were contacted by email and followed up several times; so every firm is assumed to have had a fair chance of being included in the sample. Hence the sampling process can be considered to be nearly random.

Data analysis and results

The statistical tests used were based on the research objectives and the type of variables. The key independent variable, entrant-incumbent status, was binary, being 0 for new entrants and 1 for incumbents. For type of innovation also, the dependent variables were binary; hence cross-tabulations and significance of difference in proportions were used. For approach to innovation, the dependent variables were rating-scale, hence non-parametric Kruskal-Wallis anova was used. Logistic regression was used for multivariate analysis and for modelling the relationships after adjusting for confounding effects. The independent variables used for multivariate analysis were related to incumbent-entrant status, innovation budget, sales revenue, location, respondent's (CEO) age, investment in equipment, and type of promoter. The unit of analysis was the firm. The results of data analysis are given below.

Type of innovation: Cross-tabulations and differences in proportions

The proportions of new entrants and incumbents targetting each type of innovation, based on importance, performance, and value-chain capability dimensions, are shown in table 3. The table shows that more of incumbents, than new entrants, pursue technology innovation ($p<0.10$) and product innovation ($p<0.05$), while more of new entrants, than incumbents, pursue marketing innovation ($p<0.01$). The differences in

process and business model innovations are not significant. Hypotheses H1a, H1b, H1d are supported; not H1c or H1e.

Table 3 Proportions of entrants and incumbents by type of innovation

Pearson Chi-Square =10.51, DF = 4, P-Value = 0.03

	Tech Innovation	Product Innov	Process Innov	Marketing Innov	Business Model Innov	Total
New entrants	0.14	0.25	0.14	0.29	0.18	1.00
Incumbents	0.23	0.40	0.09	0.14	0.14	1.00
Significance of difference	§	*	ns	**	ns	

Note: ns means not significant; § p<0.1 *p<0.05 **p<0.01 ***p<0.001

Approach to innovation: Kruskal-Wallis anova

The three approaches to innovation (RCT, EM, and NM) were tested for differences between entrants and incumbents using Kruskal-Wallis (KW) non-parametric test of significance of difference in medians. The results are shown in table 4.

Table 4 Differences in reliance on RCT, EM, and NM approach to innovation

Approach	**Aspect relied on**	**Significance of difference of medians**
Emphasis on RCT	Technological competence, "tiger teams"	Incumbents surpass entrants***
Emphasis on EM	Adjacencies to existing markets	Incumbents surpass entrants*
Emphasis on NM	Domains not served by the firm or competitors	Entrants surpass Incumbents*

Note: § p<0.1 *p<0.05 **p<0.01 ***p<0.001

Table 4 indicates that incumbents exceed new entrants in certain aspects related to RCT and EM, while new entrants exceed incumbents in certain aspects related to NM in what they emphasise in their approach to innovation. The variables for which the differences were not significant, had moderate to high correlation with the variables in table 4. Thus, in their approach to innovation, incumbents emphasise RCT and EM, while new entrants emphasise NM. Hypotheses H2a, H2b, and H2c are supported.

Multivariate analysis using logistic regression

Table 5 describes the seven variables used as predictors for the multivariate analysis.

Table 5 Independent (predictor) variables

Name	Description	Value
22FirmAge	New entrant or incumbent	= 1 if incumbent, else 0 (new entrant)
32CEOAge	If respondent (CEO) is below 35 years of age	= 1 if below 35 years of age, else 0
24Invest	If investment in equipment is INR 20 million or above	= 1 if high investment (INR 20 Mn or above), else 0
23Promo	Type of promoter	= 1 if working-professional-turned entrepreneur, else 0
02InnovBud	Innovation budget (as percentage of revenue)	= 0 if zero = 1 if below 2 (percent), not zero = 2 if 2 to below 5 (percent) = 3 if 5 to below 10 (percent) = 4 if 10 to below 15 (percent) = 5 if 15 to below 20 (percent) = 6 if 20 (percent) or more
03SalesRev	Sales revenue from software in 2012-13 (in INR, Mn) Mn: million	= 1 if below 5 (INR, Mn) = 2 if 5 to below 10 (INR, Mn) = 3 if 10 to below 50 (INR, Mn) = 4 if 50 to below 100 (INR, Mn) = 5 if 100 to below 250 (INR, Mn) = 6 if 250 to below 500 (INR, Mn) = 7 if 500 to below 1000 (INR, Mn) = 8 if 1000 (INR, Mn) or above
34City	If metro-located firm	= 1 if metro-located, else 0.

The 2-digit numbers in the variable names give the corresponding survey question numbers

Multivariate analysis using logistic regression shows that entrant-incumbent status is the key determinant of the choice of innovation-type and innovation-approach. Eight models were developed, five for the five innovation-types and three for the three innovation approaches. For innovation-type, the response variable was performance in the particular innovation-type, aggregating five performance aspects (refer table 1). For innovation-approach the response variable was the dominant aspect relied on, in that approach (table 4). Each model was separately developed by variable elimination using backward Wald method, starting from a saturated model containing all the seven predictors.

The significant models for type of innovation are given in tables 6 to 9.

Table 6 Model for technology innovation

Predictor	Coefficient	Odds Ratio	95 percent CI
22FirmAge	0.543§	1.72	0.99-3.01
02InnovBud	0.156*	1.17	1.01-1.35

Goodness of fit: Pearson Chi-square = 49.68 (p = 0.889); Deviance Chi-square = 54.99 (p = 0.754)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

The model for technology innovation in table 6 shows that, after adjusting for other independent variables, incumbents are more likely than new entrants (odds ratio = 1.72) to pursue technology innovation. The p-values of Pearson and Deviance Chi-square statistics are found to be more than 0.05. Hence statistical evidence to reject model fit at 5 percent significance is insufficient. It is concluded that model fit is good.

Table 7 Model for product innovation

Predictor	Coefficient	Odds Ratio	95 percent CI
22FirmAge	0.889**	2.43	1.43-4.13
02InnovBud	0.221**	1.25	1.09-1.43

Goodness of fit: Pearson Chi-square = 76.91 (p = 0.112); Deviance Chi-square = 75.03 (p = 0.143)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

The model for product innovation in table 7 shows that incumbents are more likely than new entrants (odds ratio = 2.43) to pursue product innovation. Model fit is good.

No significant model of good fit emerged for process innovation.

The model for marketing innovation in table 8 shows that incumbents are less likely than new entrants (odds ratio = 0.30) to pursue marketing innovation. The model fit is good.

Table 8 Model for marketing innovation

Predictor	**Coefficient**	**Odds Ratio**	**95 percent CI**
22FirmAge	-1.193**	0.30	0.18-0.53
23Promo	-0.490§	0.61	0.35-1.07

Goodness of fit: Pearson Chi-square = 9.99 (p = 0.694); Deviance Chi-square = 12.06 (p = 0.523)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

The model for business model innovation in table 9 shows that incumbents are less likely than new entrants (odds ratio = 0.48) to pursue business model innovation. Model fit is good.

.Table 9 Model for business model innovation

Predictor	**Coefficient**	**Odds Ratio**	**95 percent CI**
22FirmAge	-0.742**	0.48	0.28-0.82

Goodness of fit: Pearson Chi-square = 4.59 (p = 0.332); Deviance Chi-square = 5.67 (p = 0.226)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

From the above models, it may be concluded that entrant-incumbent status is the key determinant of innovation type. Hypotheses H1a, H1b, and H1d continue to be supported after adjusting for confounding effects.

Tables 10 to 12 show the significant models for approach to innovation.

Table 10 Model for RCT approach to innovation

Predictor	Coefficient	Odds Ratio	95 percent CI
22FirmAge	0.882**	2.42	1.35-4.33
02InnovBud	0.192**	1.21	1.05-1.40
24Invest	0.658§	1.93	0.99-3.76

Goodness of fit: Pearson Chi-square = 100.78 (p = 0.185); Deviance Chi-square = 90.2 (p = 0.445)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

The model for RCT approach to innovation in table 10 shows that, after adjusting for other predictors, incumbents are more likely than new entrants (odds ratio = 2.42) to pursue RCT approach to innovation. Model fit is good.

The model for EM approach shown in table 11 shows that incumbents are more likely than new entrants (odds ratio = 1.72) to pursue EM approach to innovation. The model fit is good.

Table 11 Model for EM approach to innovation

Predictor	Coefficient	Odds Ratio	95 percent CI
22FirmAge	0.543§	1.72	0.96-3.10
02InnovBud	0.217**	1.24	1.08-1.43
03SalesRev	0.140§	1.15	0.98-1.34

Goodness of fit: Pearson Chi-square = 197.73 (p = 0.996); Deviance Chi-square = 198 (p = 0.996)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

The model for NM approach in table 12 shows that incumbents are less likely than new entrants (odds ratio = 0.54) to pursue NM approach to innovation.

Table 12 Model for NM approach to innovation

Predictor	Coefficient	Odds Ratio	95 percent CI
22FirmAge	-0.615*	0.54	0.32-0.92
02InnovBud	0.380**	1.46	1.27-1.69

Goodness of fit: Pearson Chi-square = 112.63 (p = 0.202); Deviance Chi-square = 118 (p = 0.115)
§ p<0.1 *p<0.05 **p<0.01 ***p<0.001

From the above models for innovation-approach, it may be concluded that entrant-incumbent status is the key determinant of approach to innovation. Hypotheses H2a, H2b, and H2c continue to be supported after adjusting for confounding effects.

Discussion, implications, and conclusions

An important contribution of this research is that it adopted a new perspective to the study of incumbent's innovation difficulty or "innovator's dilemma" by investigating the differences in innovation approaches and innovation types, deviating from the traditional perspective of radicalness of innovation. We believe that this approach will lead to more fundamental and actionable solutions to the incumbent's innovation difficulty, than the prescriptions that go with the traditional perspective. With this alternative perspective, by regularly monitoring its innovation approaches and innovation types, a firm can stay innovative, and avoid drifting to a zone of comfort leaving gaps for others to gain innovation supremacy. A framework for innovation strategy is also proposed to enable this, combining the findings from this research with the findings from the work on disruptive innovation (Christensen, 1997).

Tables 13 and 14 show which hypotheses found support and which did not. Among the hypotheses related to the type of innovation pursued, H1a, H1b and H1d found support in the data. H1c and H1e were not supported. The three hypotheses related to the approach to innovation (H2a, H2b, and H2c) found support.

Table 13 How hypotheses fare: type of innovation

	Hypothesis	Findings from the results
H1a	More of incumbents do technology innovation than new entrants, among software SME firms	Supported
H1b	More of incumbents do product innovation than new entrants, among software SME firms	Supported
H1c	More of incumbents do process innovation than new entrants, among software SME firms	Not supported
H1d	More of new entrants do marketing innovation than incumbents, among software SME firms	Supported
H1e	More of new entrants do business model innovation than incumbents, among software SME firms	Not supported

Table 14 How hypotheses fare: approach to innovation

	Hypothesis	Findings from the results
H2a	More of incumbents emphasise RCT in approach to innovation, than new entrants, among software SME firms	Supported
H2b	More of incumbents emphasise EM in approach to innovation, than new entrants, among software SME firms	Supported
H2c	More of new entrants emphasise NM in approach to innovation, than incumbents, among software SME firms	Supported

Implications for the firm, the industry, and government

At the level of the firm, the important implication is the need to work on marketing innovation, if incumbent, and technology and product innovations, if new entrant. At the level of the industry, the implication is regarding the growth of the industry, than firm-level competitiveness; hence innovation types need to be balanced based on priorities. Implications for the Government are similar to that for the industry, but operate at a higher policy-making level. In addition to supporting start-ups and new entrants with technology infrastructure, government needs to support incumbents with policy initiatives that allow flexibility in their markets and businesses so that they can embrace change to stay innovative and competitive. Government can also play a role in strengthening institutions that reduce transaction costs, so that markets become efficient and firms' market-related competencies improve.

Conclusions

The key finding from this research is that incumbents and new entrants, in the software SME industry, differ in their innovation strategies in terms of approach to innovation and the type of innovation pursued. Predominantly, incumbents approach innovation emphasising resources, capabilities, technologies, or existing markets / customers and target technology or product innovations, while new entrants approach innovation emphasising new market or customer needs and target marketing innovations. The perspective of approach and type of innovation, adopted in this research, can lead to a more actionable understanding of the incumbent's innovation dilemma than the traditional one based on radicalness of innovation. Hence it can lead to more effective and pragmatic solutions. This research also contributes to addressing two knowledge gaps: extant research in this area has largely focussed on large firms and organisational inertia, while this research has focussed on small businesses and their strategic capacity.

A new framework for innovation strategy, proposed below, can be a useful tool for firms to plan and evaluate their innovation programmes.

A new framework for innovation strategy

Combining the findings from this research with those from the study of disruptive innovation (Christensen, 1997; Christensen et al., 2002), a new framework is proposed for innovation strategy (figure 1). Firms may find this framework useful while planning and evaluating their innovation programmes.

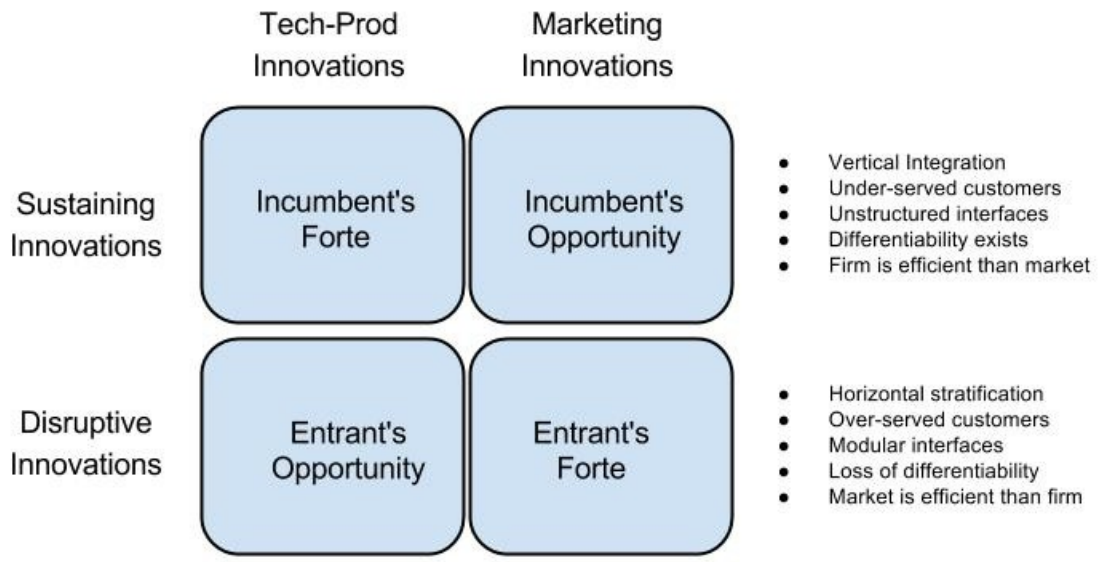

Fig. 1 Framework for innovation strategy

The four quadrants of the framework are named based on the relative strengths of incumbents and new entrants in each: Incumbent's Forte (sustaining tech-prod innovations), Incumbent's Opportunity (sustaining marketing innovations), Entrant's Forte (disruptive marketing innovations), and Entrant's Opportunity (disruptive tech-prod innovations).

As the names suggest, Incumbent's forte is the quadrant of strength for the incumbent and Entrant's forte is that for the new entrant. Entrant's opportunity is where entrants disrupt the incumbent. Incumbent's opportunity is where incumbents may have a good chance of success by improving their market-related competencies.

Future research directions

The alternative perspective adopted in this research can open up avenues for further research that can offer actionable solutions to the incumbent's innovation dilemma. It will be enlightening to investigate if the results obtained for software SME sector hold for large firms in the software industry, and for other industries. The perspective adopted in this research, namely innovation type and innovation approach, may throw up interesting findings in the large software sector and in other industries. Finally, the new framework for innovation strategy can lead to new research directions in each of its four quadrants.

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LIST OF PUBLICATIONS RELATED TO THE RESEARCH

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6. Kumar, K. G. S., & Banerji, S. (2011). Mediating between competitive strategy and value: the increasing role of projects.
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